

REMARKS

Claims 1-22 are now pending. Support for new Claims 21 and 22 is found in the specification in at least page 4, lines 6-7.

The Examiner objected to Claims 4 and 16 due to a grammatical error. This error has been corrected.

Applicants' Claim 1 identifies, among other things, a first light guide for red light, a second light guide for green light, and a third light guide for blue light as a backlight for an LCD.

The Examiner rejected Claims 1, 12, 13, and 20 as being obvious over Evanicky (U.S. Patent No. 6,243,068). The Examiner noted that Evanicky discloses a red light source, a blue light source, and corresponding light guides. The Examiner pointed to Evanicky's column 3, lines 13-17, for its description of providing additional light sources having different color temperatures for providing color balance. The Examiner further pointed out that in Evanicky's column 1, lines 29-45, Evanicky describes how color balancing can be achieved with proper balancing of the intensities of red, green, and blue colors. The Examiner then concluded that it would have been obvious to add another light guide for coupling green light into the liquid crystal display along with the red light guide and blue light guide.

It is respectfully submitted that each of Evanicky's light sources comprises red, green, and blue components generated by red, green, and blue phosphors on a fluorescent light tube. (See, for example, column 10, lines 10-18; and column 13, line 59, to column 14, line 16.) Evanicky calls these light sources 132 and 136 (Fig. 2A) "red light" and "blue light" sources, respectively, simply to designate one RGB light source (the red light) as having a color temperature below the minimum desired color temperature and the other RGB light source (the blue light) as having a color temperature above the maximum desired color temperature. (See column 3, lines 21-28; and column 9, lines 16-28.) **Accordingly, there is no separate light source for red light and blue light.**

Evanicky is directed to a technique for adjusting the color temperature of a display between a minimum color temperature and a maximum color temperature by adjusting the relative intensities of the light sources 132 and 136 (Fig. 2A). When Evanicky discloses that the backlight can consist of more than two light sources (column 3, lines 13-17), Evanicky is describing the case shown in Fig. 10A (described in column 15 starting on line 56). In the

example of Fig. 10A, there are two red light sources and two blue light sources, each of the sources containing red, green, and blue phosphors that have different color temperatures.

As seen, Evanicky is addressing a color temperature problem unrelated to the problem that Applicants' color LCD addresses. **Each of Evanicky's light sources has red, green, and blue components, which is exactly what Applicants' invention is avoiding in order to increase the efficiency of the display. Accordingly, Evanicky could not make obvious Claims 1, 12, 13, and 20 or be combined with any other prior art to suggest Applicants' claimed inventions.**

Since the primary reference for the Examiner's rejection of all claims, except Claim 15, is based in Evanicky, it is respectfully submitted that the Examiner has not established a prima facie case of obviousness of the claims. None of the prior art cited suggests Applicants' invention.

Independent Claims 1 and 15 have been amended to make it clear that Applicants' first light guide only couples essentially red light, the second light guide only couples essentially green light, and the third light guide only couples essentially blue light. The amendment expressly precludes each of the light guides from coupling RGB light. This is not considered a narrowing of the claims since the meaning of red light, green light, and blue light in Claims 1 and 15 should have been understood to not be a red, green, or blue light component of an RGB light source applied to each light guide. Therefore, the amendments have not been made for the purposes of patentability.

The remaining rejected independent claim is Claim 15. The Examiner rejected Claim 15 as being obvious over Hunter (U.S. Patent No. 5,359,345) in view of Evanicky. Hunter discloses the use of red, green, and blue LEDs in an LCD and describes a "diffusant screen 120" (column 4, line 45) to diffuse the light from the red, green, and blue LEDs. Based on the disclosure by Hunter, it cannot be suggested that each of the red, green, and blue light sources is coupled to a separate light guide. It is noted in column 6, lines 3-4, that the red, green, and blue LEDs are driven sequentially and cyclically by the LED drive circuit 250. This suggests the use of a single diffusant screen 120.

Accordingly, combining Hunter with Evanicky cannot suggest Claim 15.

Although additional arguments for patentability can be applied to the various rejected dependent claims, such arguments are believed not necessary in view of the clear distinction of the independent claims over Evanicky and Hunter.

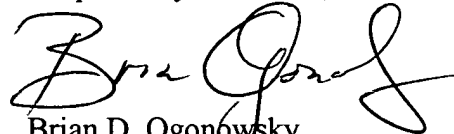
The Applicants appreciate the Examiner's indication that Claims 6-9 and 17-18 would be allowable if rewritten in independent form including all of the limitations of the base claims and any intervening claims.

In view of the above arguments, Applicants respectfully request allowance of all pending claims. Should the Examiner have any questions, the Examiner is invited to call the undersigned at (408) 382-0480 ext. 202.

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Respectfully submitted,



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ATTACHMENT A

The following is a marked up version of the amended Claims 1, 4, 15, and 16.

1. (Amended) A color liquid crystal display comprising:
a plurality of layers including a liquid crystal layer; and
a backlight comprising at least one first light guide for coupling a first light color
consisting essentially of red light, at least one second light guide for coupling a second light
color consisting essentially of green light, and at least one third light guide for coupling a third
light color consisting essentially of blue light, said first light guide, said second light guide,
and said third light guide being positioned to illuminate a surface of said liquid crystal layer.

4. (Amended) The display of Claim 3 wherein said first light guide, said
second light guide, and said third light guide comprise fiber optic cables arranged adjacent and
parallel to each other.

15. (Amended) A method performed by a color liquid crystal display, said
display comprising a plurality of layers including a liquid crystal layer; and a backlight
comprising at least one first light guide for coupling a first light color consisting essentially of
red light, at least one second light guide for coupling a second light color consisting
essentially of green light, and at least one third light guide for coupling a third light color
consisting essentially of blue light, said first light guide, said second light guide, and said
third light guide being positioned to illuminate a surface of said liquid crystal layer, said
method comprising:

energizing a red light emitting diode (LED) optically coupled to said first light
guide;

energizing a green LED optically coupled to said second light guide;

energizing a blue LED optically coupled to said third light guide; and

selectively controlling said liquid crystal layer to display an image comprising
a combination of red, green, and blue light.

16. (Amended) The method of Claim 15 wherein said first light guide, said
second light guide, and said third light guide comprise fiber optic cables arranged adjacent and
parallel to each other.